



City of Boulder Residential Building Guide

Green Points Application

Resource Conservation Ordinance

City of Boulder, P. O. Box 791, Boulder, CO 80306

For Green Points information contact:

City of Boulder Planning & Development Services, 1739 Broadway, Third Floor, Boulder
Mail: P.O. Box 791, Boulder, CO 80306-0791
Phone: 303-441-1880, Fax: 303-441-3214 • Web site: www.ci.boulder.co.us/buildingservices

Other Resources:

Office of Environmental Affairs: 303-441-3090 • Web site: www.environmentalaffairs.com
Water Conservation Office: 303-413-7407
Boulder Energy Conservation Center: 303-441-3278 • Web site: www.conservationscenter.org

Instructions

1. Prior to selecting any measures, consult the Green Points Program Guidelines, which contain information on specific designs, compliance and other details. The Green Points Guidelines are available at the Planning & Development Services Center (see address above).

If your project is less than 500 sq. ft., disregard this application form. You do not need to comply with the Green Points Program.

2. Determine the **floor area** of the project. Then refer to the chart below to determine the number of points needed for the project (new construction, interior remodel or addition) and enter the floor area and points required in the spaces provided on the next page.

"Floor Area" means the total square footage of all levels included within the outside walls of a building or portion thereof, but excluding courts, garages usable exclusively for the storage of motor vehicles, and uninhabitable areas that are located above the highest level or below the first floor level. NOTE: this definition is verbatim from 3-8-2 and adopted by the Green Points ordinance.

Table 1: Point Requirements

Project Description	Thresholds	Points Required
New construction	Up to 1,500 sq. ft.	50 points
New construction	1,501 to 2,500 sq. ft.	65 points
New construction	2,501 sq. ft. or greater (each additional 50 sq. ft.)	65 points, plus 1 point for each additional 50 sq. ft. area up to a maximum of 100% of all available Green Points
Interior remodel	500 to 1,000 sq. ft.	10 points
Interior remodel	1,001 to 2,000 sq. ft.	15 points
Interior remodel	2,001 sq. ft. or greater	25 points
Additions	500 to 1,000 sq. ft.	25 points
Additions	1,001 to 2,500 sq. ft.	50 points
Additions	2,501 sq. ft. or greater (each additional 50 sq. ft.)	50 points, plus 1 point for each additional 50 sq. ft. area up to a maximum of 100% of all available Green Points



Applicant _____

Project Address _____

Single Family: _____ Sq. Ft. Area ☐ New ☐ Remodel ☐ Addition

Points Required: _____ Points Received: _____

Multifamily: _____ Sq. Ft. Area _____ Units

Points Required: _____ Points Received: _____

For Office Use Only

Permit Log # _____

Floor Sq. Ft. _____

Single Family _____

Multifamily _____

Points Required _____

Points Received _____

Reviewer _____

*Check box
to select
measure*

Green Points Measures
(See Green Points Program Guidelines)

*Inspected:
(to be initialed
by inspector)*

1 - CONSTRUCTION • DEMOLITION • USE OF RECYCLED MATERIALS

INSPECTED BY CITY DURING PLAN REVIEW

1.1 Deconstruction Plan Submitted with Permit Application

☐ 3 points _____

1.2 Construction Debris Recycled (up to 15 points)

☐ 5 points: 75% of all clean wood waste _____

☐ 5 points: 100% of all metal scrap _____

☐ 5 points: 90% of cardboard generated at the site _____

SELF-CERTIFIED

1.3 Use of Reclaimed Lumber

☐ 5 points _____

1.4 Deconstruction Materials Donated to a Reseller

☐ 5 points _____

1.5 Recycled Content Carpeting

☐ 2 points _____

1.6 Recycled Plastic or Non-CCA Treated Deck Materials

☐ 2 points _____

1.7 Recycled Content Sheathing

☐ 1 point _____

1.8 Recycled Content, Fiber Cement or FSC Certified Siding

☐ 3 points _____

1.9 Recycled Content Roofing

☐ 3 points _____

2 - LAND USE • WATER CONSERVATION

INSPECTED BY CITY DURING PLAN REVIEW

2.1 Water Conservation by Performance Procedure (1-6 points)

☐ 1 point: 10,000 gallons of annual water saving _____

☐ 2 points: 20,000 gallons of annual water saving _____

☐ 3 points: 30,000 gallons of annual water saving _____

☐ 4 points: 40,000 gallons of annual water saving _____

☐ 5 points: 50,000 gallons of annual water saving _____

☐ 6 points: 60,000 gallons of annual water saving _____

2.2 Use of Engineered Swales to Filter Stormwater Runoff

☐ 3 points _____

INSPECTED BY CITY INSPECTOR
<p>2.3 Planting Two Trees Beyond Required Street Trees (up to 6 points) 1 point for each additional tree planted (up to 6 trees) Calculate: total number of trees _____ = total points _____ <input type="checkbox"/> _____ points (enter number from line above) _____</p>
SELF-CERTIFIED
<p>2.4 Xeriscape Landscaping (1-4 points) <input type="checkbox"/> 1 point: two items..... <input type="checkbox"/> 2 points: three items..... <input type="checkbox"/> 3 points: four items..... <input type="checkbox"/> 4 points: five items.....</p> <p>2.5 Drip Irrigation Installed <input type="checkbox"/> 3 points.....</p>
3 - FRAMING
INSPECTED BY CITY DURING PLAN REVIEW
<p>3.1 Keep Footprint Simple for Cost-Effectiveness (1-3 points) <input type="checkbox"/> 1 point: rectangle with one rectangle protrusion..... <input type="checkbox"/> 2 points: one "L" <input type="checkbox"/> 3 points: simple rectangle.....</p> <p>3.2 Structural Alternatives to Wood <input type="checkbox"/> 5 points.....</p>
INSPECTED BY CITY INSPECTOR DURING ROUGH INSPECTION
<p>3.3 Incorporate Optimal Value Engineering (OVE) Framing Techniques <input type="checkbox"/> 3 points.....</p> <p>3.4 Oriented Strand Board (OSB) in Subfloors <input type="checkbox"/> 2 points.....</p> <p>3.5 OSB or FSC Certified Plywood in Wall Sheathing <input type="checkbox"/> 2 points.....</p> <p>3.6 Finger-Jointed or Engineered Studs Used for Wall Framing <input type="checkbox"/> 2 points.....</p> <p>3.7 FSC Certified Sustainably Harvested Lumber Used for Framing <input type="checkbox"/> 5 points.....</p> <p>3.8 Engineered Lumber used in Structural Framing (up to 4 points) <input type="checkbox"/> 1 point: framing roof trusses or wood "I" joists..... <input type="checkbox"/> 1 point: wood "I" joists or floor framing..... <input type="checkbox"/> 2 points: use engineered products to replace 2x10s and 2x12s in beams and headers.....</p> <p>3.9 Structural Insulated Panels (SIPs) Used for Exterior Walls and Roofs (up to 8 points) <input type="checkbox"/> 4 points: SIPs for exterior walls..... <input type="checkbox"/> 4 points: SIPs for roofs.....</p>
4 - PLUMBING
INSPECTED BY CITY INSPECTOR
<p>4.1 Tankless Water Heater <input type="checkbox"/> 2 points.....</p> <p>4.2 "On-Demand" Water Switch <input type="checkbox"/> 3 points.....</p>

5 - ELECTRICAL

SELF-CERTIFIED

5.1 Compact Fluorescent Bulbs Installed (1-3 points)

- ☐ 1 point: 4 CFL bulbs
- ☐ 2 points: 8 CFL bulbs
- ☐ 3 points: 12 CFL bulbs

5.2 Energy-Efficient Appliances (1-4 points)

- ☐ 1 point: 1 appliances
- ☐ 2 points: 2 appliances.....
- ☐ 3 points: 3 appliances.....
- ☐ 4 points: 4 appliances.....

5.3 Efficient Light Controls Installed (up to 2 points)

- ☐ 1 point: 2 control devices
- ☐ 2 points: 4 control devices.....

5.4 Clothesline

- ☐ 1 point.....

6 - WINDOWS • INSULATION

INSPECTED BY CITY INSPECTOR DURING ROUGH INSPECTION

6.1 No Metal Windows Installed in Basements

- ☐ 2 points

6.2 Single-Pane Windows Upgraded (up to 10 points)

- 0.5 point/window: Double-glazed (Max U-value=.5)
Calculate: total number of windows _____ = total points _____
- 1 point/window: Double-glazed with low-e coating (Max U-value=.4)
Calculate: total number of windows _____ = total points _____
- 1.5 points/window: Double-glazed with argon/Heat Mirror (Max U-value=.35)
Calculate: total number of windows _____ = total points _____
- ☐ _____ points (enter total of numbers from lines above).....

INSPECTED BY CITY INSPECTOR DURING INSULATION INSPECTION

6.3 Wall Insulation is 80% Recycled Material

- ☐ 2 points

6.4 Ceiling Insulation is 80% Recycled Material

- ☐ 2 points

6.5 Wet-Spray Insulation in Walls

- ☐ 2 points

6.6 Wet-Spray Insulation in Ceiling

- ☐ 2 points

6.7 Install Recycled Content, Formaldehyde-Free Fiberglass Insulation

- ☐ 2 points

6.8 Existing Ceiling Insulated to R-38 or Capacity for Fixed Space

- ☐ 5 points

6.9 Existing Walls Insulated to Capacity or Rigid Insulation Added to Exterior

- ☐ 7 points

Total points, page 3: _____

7 - HEATING, VENTILATING & AIR CONDITIONING (HVAC)
INSPECTED BY CITY DURING PLAN REVIEW
7.1 Natural Cooling <input type="checkbox"/> 5 points
INSPECTED BY CITY INSPECTOR DURING ROUGH INSPECTION
7.2 Hydronic Baseboard Heat <input type="checkbox"/> 3 points
7.3 Radiant Floor Heat <input type="checkbox"/> 3 points
7.4 Vapor Permeable Infiltration Barrier <input type="checkbox"/> 2 points
INSPECTED BY CITY INSPECTOR
7.5 Air Infiltration Rate Below Specified Levels (2-8 points) <input type="checkbox"/> 2 points: 0.45 NACH <input type="checkbox"/> 4 points: 0.40 NACH <input type="checkbox"/> 6 points: 0.35 NACH <input type="checkbox"/> 8 points: less than 0.35 NACH
7.6 Whole-House Fan <input type="checkbox"/> 2 points
7.7 Air to Air Heat Exchanger (Heat Recovery Ventilation) <input type="checkbox"/> 8 points
SELF-CERTIFIED
7.8 Convert Electric Resistance Heat to Gas <input type="checkbox"/> 10 points
7.9 Replace Electric Water Heater with a Gas Water Heater <input type="checkbox"/> 4 points
7.10 Air Destratification System <input type="checkbox"/> 1 point
7.11 Evaporative Cooling <input type="checkbox"/> 6 points
8 - SOLAR
INSPECTED BY CITY DURING PLAN REVIEW
8.1 Solar Hot Water Heating System Installed <input type="checkbox"/> 10 points
8.2 Enhanced Solar Access <input type="checkbox"/> 2 points
8.3 Passive Solar Potential Preservation <input type="checkbox"/> 5 points
8.4 Passive Solar Space Heating (6-20 points) <input type="checkbox"/> 6 points: 20% passive solar heating fraction of the building <input type="checkbox"/> 12 points: 40% passive solar heating fraction of the building <input type="checkbox"/> 20 points: 60% passive solar heating fraction of the building
8.5 Active Solar Pre-plumbing <input type="checkbox"/> 2 points

8.6 Active Solar Space Heating (8-20 points)

- ☐ 8 points: 30-39% solar heating
- ☐ 12 points: 40-49% solar heating
- ☐ 16 points: 50-59% solar heating
- ☐ 20 points: 60% or greater solar heating.....

8.7 Solar-Generated Electricity

- ☐ 20 points

9 - INDOOR AIR QUALITY • INTERIOR FINISHES**INSPECTED BY CITY INSPECTOR DURING ROUGH INSPECTION****9.1 Install Infrastructure to Support Current or Future Alternative Fuel Vehicle Use**

- ☐ 5 points

INSPECTED BY CITY INSPECTOR**9.2 High Efficiency Particulate Air (HEPA) Filter on Furnace**

- ☐ 3 points

9.3 Sealed Combustion Gas Furnace/Boiler & Water Heater (5-10 points)

- ☐ 5 points: one appliance
- ☐ 10 points: both appliances
- OR
- ☐ 5 points: separate room for appliances

9.4 Exhaust Fan Installed in Attached Garage or Garage is Detached

5 points

SELF-CERTIFIED**9.5 Low VOC Interior Paint**

- ☐ 1 point.....

9.6 Low Solvent Construction Adhesives

- ☐ 2 points

9.7 Rough-in for Radon Mitigation

- ☐ 3 points

9.8 Radon Mitigation

- ☐ 5 points

9.9 Low-Toxic, Water-Based Wood and Floor Finishes Used

- ☐ 3 points

9.10 Carbon Monoxide Detector Installed

- ☐ 3 points

9.11 Elimination of All Particleboard Inside Envelope of House

- ☐ 5 points

9.12 Elimination of All Medium Density Fiberboard Made with Urea-Formaldehyde

- ☐ 3 points

9.13 All Exposed Particleboard and MDF Sealed with Three Coats of Low VOC, Latex Paint

- ☐ 2 points

9.14 Alternative No-Formaldehyde Products Substituted for Particleboard

- ☐ 3 points

10 - INNOVATION POINTS**INSPECTED BY CITY DURING PLAN REVIEW****10.1 Innovative Product or Design Points (up to 10 points)**

See Green Points Guidelines on how to calculate points

- ☐ _____ points.....

Energy Code Measures/Green Points Worksheet

1. If you have chosen to use a software program to demonstrate IECC compliance, you may receive energy code Green Points by calculating the percent increase over the minimum requirements. If you are using the REScheck (formerly MECcheck) software or a comparable program to demonstrate your IECC compliance, the program will calculate this percent increase for you. Print the page that gives the percent increase and attach it to this form. Each percentage point equals one Green Point. For example, if you are 25% over the required values, you receive 25 points, etc.

Percent Increase	Green Points
5%	5 points
15%	15 points
30%	30 points

2. If you have chosen any of the prescriptive or trade-off methods for demonstrating compliance with the International Energy Conservation Code (IECC), you may use the table below to calculate your energy code Green Points.

3. Choose where you will exceed minimum requirements. Green Points are awarded for methods that exceed IECC minimum requirements.

- a. First, fill in the minimum required IECC rating values for your type of project on the "IECC rating" line.
- b. Next, choose the features where you plan to exceed the minimum rating, and write in the values you will be using in the "Green Points" line.
- c. Calculate your Green Points awarded for each value using Table 2. Green Points are determined by the difference between the points awarded for the ratings you use and the minimum required ratings. Calculate the difference between the minimum IECC rating values and your Green Points to find the number of Green Points awarded for energy code features. Write these numbers in the "Green Points Awarded" line and total them on the line below.

Examples: (Use the Energy Code Measures/Green Points reference Table 2 on next page.)

- (1) If the compliance value for windows is U-0.45 and the design value is U-0.37 then four points are awarded: (U-0.37 = 6 points) minus (U-0.45 = 2 points) = 4 Green Points.
- (2) If the compliance value for wall insulation is R-19 and the design value is R-24 then one point is awarded: (R-24 = 4 points) minus (R-19 = 3 points) = 1 Green Point.
- (3) If the compliance value for basement is R-10 and the design value is R-13 then one point is awarded: (R-13 = 1 point) minus (R-10 = 0 point) = 1 Green Point.
- (4) If the compliance value for a furnace efficiency is 84% AFUE and the design value is 94% AFUE then four points are awarded: (94% AFUE = 6 points) minus (84% AFUE = 2 points) = 4 Green Points.

Sample Worksheet:

Energy Code Measures/Green Points Worksheet										
Examples:	(1)	(2)	(3)	(4)						
	Glazing %	Glass U-factor	Ceiling R-value	Walls R-value	Floor R-value	Basement R-value	Slab R-value	Crawl Space R-value	Furnace AFUE	Code Compliance
IECC Rating	8	0.45	38	19	19	10	7	16	84%	X
Green Points	N/A	0.37	38	24	19	13	7	16	94%	
Green Points Awarded*		4		1		1			4	
*Points for Green Points options minus points for IECC requirements.										Total Green Points <u>10</u>

Energy Code Measures/Green Points Worksheet

(Use Table 2 to calculate Green Points above IECC compliance.)

	Glazing %	Glass U-factor	Ceiling R-value	Walls R-value	Floor R-value	Basement R-value	Slab R-value	Crawl Space R-value	Equipment Efficiency	Code Compliance
IECC Rating										
Green Points										
Green Points Awarded*										

*Points for Green Points options minus points for IECC requirements.

Total Green Points _____

Table 2: Energy Code Measures/Green Points

Chapter 10-7 Measures

Green Points

Glass U-factor/R-value (as determined by the National Fenestration Rating Council)

R-2.0/U-0.50	.0
R-2.2/U-0.46	.2
R-2.5/U-0.42	.4
R-2.8/U-0.37	.6
R-3.3/U-0.33	.8
U-0.33 or less	1.0

Wall Insulation

R-11	.0
R-13	.1
R-15	.2
R-19	.3
R-24	.4
R-25 or greater	.5

Ceiling Insulation

R-30	.0
R-34	.1
R-38	.2
R-42	.3
R-43 or greater	.5

Floor Insulation

R-15	.0
R-19	.1
R-24	.2
R-25 or greater	.3

Chapter 10-7 Measures

Green Points

Basement Insulation

R-10	.0
R-13	.1
R-19	.2
R-24	.3
R-25 or greater	.4

Slab Insulation

R-5	.0
R-7	.1
R-10	.2
R-15	.3

Crawl Space Insulation

R-15	.0
R-19	.1
R-24	.2

Furnaces and Boilers

78% AFUE	.0
84% AFUE	.2
90% AFUE	.4
94% AFUE	.6

Air Conditioning

11 SEER	.0
12 SEER	.2
13 SEER	.4
14 SEER	.6
15 SEER or greater	.8

Total Green Points Received

Total Green Points from Green Points Measures (pages 1-5): _____

Total Green Points from Energy Code Worksheet (above): _____

Total Green Points Received: _____

Total Green Points Required: _____